

REMARKS

In the Office Action mailed October 23, 2007 the Office noted that claims 1-20 were pending and rejected claims 1-20. Claims 1, 8 and 12 have been amended, claims 3, 10, 11 and 14 have been canceled, claim 21 has been added, and, thus, in view of the foregoing claims 1, 2, 4-9, 12, 13 and 15-21 remain pending for reconsideration which is requested. No new matter has been added. The Office's rejections are traversed below.

REJECTIONS under 35 U.S.C. § 103

Claims 1-6 and 8-20 stand rejected under 35 U.S.C. § 103(a) as being obvious over Grande, U.S. Patent No. 5,568,450 in view of Lurton, et. al. The Applicants respectfully disagree and traverse the rejection with an argument and amendment.

Grande discusses sea bottoms being distinguished using two parameters of sea bottoms, scattering and loss. Lurton discusses that a single acoustic signal can be used to distinguish bottom structures.

The Applicant has amended the independent claims. For example, claim 1 has been amended to recite "wherein, the performing the acoustic reflection measurement is performed by a first transmitter transmitting a wave perpendicular from the first transmitter to the bottom and back, and the performing the acoustic scattering measurement is performed by a second transmitter transmitting waves traveling at an angle relative to

said perpendicular direction from the second transmitter to the bottom and back."

Support for the amendment can be found in original claims 3, 10, 11 and 14; Fig. 1; and page 7, lines 9-21 of the Specification. The Applicant submits that no new matter has been added by the amendment of claims 1, 8 and 12. The prior art fails to disclose a first transmitter transmitting a wave perpendicular from the first transmitter to the bottom and back and a second transmitter transmitting waves traveling at an angle relative to said perpendicular direction from the second transmitter to the bottom and back.

As regards cancelled claims 3 and 14, the Office asserts that Grande, col. 9, line 55 through col. 10, line 9 discloses "reflection measurement is performed such that measurement is done on waves traveling in a direction perpendicular from the transmitting means to the bottom and back and that the scattering measurement is performed such that measurement is done on waves traveling at an angle relative to said perpendicular direction from the transmitting means to the bottom and back," as in cancelled claim 3. However, Grande, col. 10, lines 30-33, states

The probe pulse method for bottom parameter extraction determines bottom scattering strength coefficient and bottom reflection loss versus **grazing angle from single, identifiable acoustic paths**, if those paths exist. [Emphasis added]

Thus, Grande does not suggest using a wave in a perpendicular direction and combining it with a second wave transmitted at an angle relative to the perpendicular direction. Grande merely discusses the single wave at an angle.

The Office has not asserted and the Applicant has not found that Lurton discusses transmitting a wave in a perpendicular direction and combining it with a second wave transmitted at an angle relative to the perpendicular direction.

Further, the Office asserts that it would have been obvious to combine the teachings of Grande with those of Lurton. The Applicant respectfully disagrees. Lurton uses a single signal and simply does not suggest a separate reflection and scattering measurements are useful to identify bottom structure. Grande also contains no suggestion that a bottom structure determination can be performed. Grande does not go beyond discussing producing two measurements to characterize the bottom. Therefore, the combination does not disclose "identifying a bottom type of said location on the basis of the bottom type which the search unit associates with a combination of the first and second attributes," as in claim 1.

For at least the reasons stated above, Grande and Lurton, taken separately or in combination, fail to render obvious the features of claims 1, 8 and 12 and the claims dependent therefrom.

Claim 7 stands rejected under 35 U.S.C. § 103(a) as being obvious over Grande in view of Lurton in view of Preston, U.S. Patent Publication, 2003/0206489. Preston adds nothing to the combination of Grande and Lurton as applied to the independent claims. Therefore, Grande, Lurton and Preston, taken separately or in combination, fail to render obvious the features of claim 7.

NEW CLAIM

Claim 21 is new. Support for claim 21 found in Fig. 6 and the accompanying text of the Specification. The Applicant submits that no new matter has been added by the addition of claim 6. The prior art of record fails to disclose displaying said identified bottom type as different character in a display grid of said location.

SUMMARY

It is submitted that the claims satisfy the requirements of 35 U.S.C. § 103. It is also submitted that claims 1, 2, 4-9, 12, 13 and 15-21 continue to be allowable. It is further submitted that the claims are not taught, disclosed or suggested by the prior art. The claims are therefore in a condition suitable for allowance. An early Notice of Allowance is requested.

The Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any

overpayment to Deposit Account No. 25-0120 for any additional
fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17.

Respectfully submitted,

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